

analysis gave 8.04% H_2O and 5.65% Ca, instead of the theoretical 8.01% H_2O and 5.53% Ca.

The *cadmium salt* forms beautiful needles, readily soluble in water. Its analysis showed 8.21% H_2O and 14.13% Cd, instead of 8.29% H_2O and 14.19% Cd.

The *zinc salt* consists of indistinct needles, readily soluble in water. Its analysis showed the presence of five molecules of water, and 10.51% Zn.

The *methyl ester* crystallizes in beautiful needles, which melt at 104–105° C. By its combustion I obtained 26.23% C and 2.15% H. Its formula requires 26.86% C and 1.68% H.

The study of other mixed dihalogen derivatives of salicylic acid is being carried forward in this laboratory, the results of which will be published later.

IV. Barite from Ludlow Falls, Miami County, Ohio.

By Charles H. Ehrenfeld.

This mineral was found in the summer of 1886, the chief interest in connection with it being that it is the first time barite has been found in this locality. It is white, semi-transparent and massive, and it occurs in the Niagara limestone, associated with small crystals of pyrite, the surface of which is brown owing to oxidation. The average of four sp. gr. determinations of the barite is 4.48.

An analysis showed the following composition :

BaSO ₄	91.10%
SrSO ₄	7.63 "
CaSO ₄98 "
Total.....	99.71%

CHEMICAL LABORATORY OF WITTENBERG COLLEGE,
Springfield, Ohio, Nov. 8, 1887.

Stated Meeting, December 2, 1887.

Present, 34 members.

President, Mr. FRALEY, in the Chair.

Dr. Morton W. Easton was presented to the Chair and took his seat.

Correspondence was submitted as follows: Letters acknowledging receipt of diploma from Messrs. R. N. Toppan, Cambridge, Mass.; William John Potts, Camden, New Jersey; Charles A. Oliver and Henry Reed, Philadelphia.

A letter of envoy from Das K. Württ. Statistische Landesamt (Stuttgart).

Letters acknowledging the receipt of the Proceedings, No. 125, from: Bibliothèque Impériale Publique, Library of the Academy of Sciences, Comité Géologique de la Russie, Observatoire Physique Central, Prof. Serge Nikitin, St. Petersburg; K. Bibliothek, K. Geologische Landesanstalt and Bergakademie, Berlin; Verein für Thüringische Geschichte und Alterthumskunde, Jena; Publishers of "Natur-Forscher," Tübingen, Württemberg; Prof. Remi Siméon, Paris; Amer. Statistical Association, Boston; Akademie der Wissenschaften, Wien; Dr. Hugo von Meltzel, Hungary; Messrs. Friedländer & Sons, Berlin; K. Sächsischer Alterthums Verein, Dresden; Verein für Thüringische Geschichte und Alterthumskunde, Jena; Deutsche Gesell. für Anthrop., etc., München; K. Württembergisches Statistisches Landesamt, Stuttgart; Nassauischer Verein für Naturkunde, Wiesbaden; Institut R. Grand Ducal de Luxembourg; Soc. R. Malacologique de Belgique, Acad. R. des Sciences, etc., Bruxelles; Instituto y Observatoire de Marina de San Fernando, Madrid; Publishers of "Nature," London; Museum of Comparative Zoölogy, Cambridge, Mass.; Vassar Brothers' Institute, Poughkeepsie; Messrs. Wm. M. Meigs, Henry Phillips, Jr., Richard Vaux, Philada.; Johns Hopkins University, Baltimore; U. S. Commissioner of Fish and Fisheries, Bureau of Navigation, U. S. Department of Agriculture, Washington; University of California.

A letter was read from Professor Rothrock, enclosing tickets for his Free Michaux Forestry lectures under the auspices of the American Philosophical Society and the Pennsylvania Forestry Association, at the University of Pennsylvania.

Circulars were read as follows: From Prof. Antonio Favardi, of Milan, Italy, announcing the preparation of a new edition of the works of Galileo. From the "Record Society," Pensarn, Abergele, North Wales, in reference to its publication of original documents relating to Lancashire and Cheshire. From the publishers of "The American Geologist," announcing the issue of a new journal under that title.

Prof. Daniel Kirkwood (Bloomington, Indiana) presented, through the Secretaries, a communication, entitled, "Note on the possible existence of Fireballs and Meteorites in the Stream of Bielids."

The Report of the Committee on *Volapük* was read, after which a discussion upon the subject-matter of the Report ensued, participated in by the members, and ultimately, on motion of Mr. McKean, the whole subject was recommitted.

The Report of the Treasurer was presented and referred to the Finance Committee, and the Society was adjourned by the President.

Note on the Possible Existence of Fireballs and Meteorites in the Stream of Bielids. By Daniel Kirkwood.

(Read before the American Philosophical Society, December 2d, 1887.)

A revision of my paper on this subject, read September 2d, 1887, suggests the following modifications :

1. Before 1832, the earth passed the comet's node early in December. The first eight meteors of the list should therefore be rejected.

2. In Greg's Catalogue the circumstances which indicate the radiant are not generally given ; the probability that the meteors belong in part to the stream of Bielids must be judged by a comparison of their relative numbers with the mean number during a specified time. In the thirty years from 1831 to 1860, the list gives seven hundred and twenty-one fireballs and meteorites, or six for any three days of the year taken at random. The number for November 28-30 is twelve, or twice the average. Of these, one is the meteorite which fell during the shower of Bielids on November 27th, 1885 ; one is the conformable fireball of November 28th, 1850, the date of a well-marked shower of shooting stars ; three (1839, 1848, and 1850, Nov. 30) are non-conformable ; and the directions of the remaining seven are unknown, at least to the writer. Mr. Greg calls attention to November 27-30 as an aerolitic epoch coincident with one of shooting stars.

3. The attempt in my paper of September 2d, to trace a period approximately equal to that of Biela's comet was probably premature.